

Amendments to the Drawings:

Please amend Fig. 2 by providing a label numeral “**26**” and a lead line pertaining to the pusher component (as also seen and labeled in Fig. 1). A drawing sheet for Fig. 2 is provided herewith with the proposed amendment annotated in red ink. A replacement drawing sheet showing Fig. 2 as amended also is supplied herewith; please replace the original Fig. 2 with the replacement sheet.

Please amend Fig. 3 by providing two label numerals “**18**” and corresponding lead lines pertaining to primary packing bolts. Please amend Fig. 3 by replacing the existing label numeral “**18**” with label numeral “**29**”. Please amend Fig. 3 by replacing the existing label numeral “**29**” with label numeral “**28**”. Please amend Fig. 3 by providing a new label numeral “**29**” and corresponding lead line pertaining to one of the primary packing nuts. A drawing sheet for Fig. 3 is provided herewith with the proposed amendments annotated in red ink. A replacement drawing sheet showing Fig. 3 as amended also is supplied herewith; please replace the original Fig. 3 with the replacement sheet.

Remarks

Claims 1-7, 9-14, and 16-20 are pending. Claims 16-20 are newly added. Claims 1, 5, 7, 9, 11 and 14 are amended. Claims 8 and 15 were cancelled and their subject matter imported into claim 7.

The specification text is amended to correct minor typographical errors, or to better harmonize the text to the drawings, or to improve clarity. The drawings are amended to add clarity to Fig. 2 and to harmonize the label numerals of Fig. 3 with those employed in the specification text.

Claims 1-7, 13, and 14 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,476,117 to Pakula. The rejection is overcome by amendment to claims 1 and 7. As amended both claim 1 and claim 7 specify that “said first adjustable connecting means and said second adjustable connecting means are adjustable independently of each other”. Because the Pakula uses only one set “adjustable connecting means” (the bolts **80** and nuts **81**) to connect the secondary packing gland flange **75** to the primary packing gland flange **54**, and does not teach any separate, second, adjustable means for connecting the primary packing gland flange to the lower flange **36**, it cannot anticipate claims 1 and 7 as amended. Pakula has but one adjustable connecting means, which connects all three flanges **75**, **54**, and **36** thus preventing the independent adjustment claimed by Applicants.

Claims 1 and 7 having been amended to distinguish over Pakula, dependent claims 2-6 and 9-14 likewise are allowable over Pakula.

Applicants note at this juncture that the Pakula device is for a “quarter-turn” valve. Thus, it is a rotating stem type of valve, where the stem rotates on its axis, but does not shift axially; the simple rotary motion merely rotates a specially configured ball or plug within the fluid flow, rather than shifting the valving element perpendicular to the direction of flow. See Pakula Fig. 1; col. 1, lines 13-26; and col. 3, lines 15-27. Thus the components of the Pakula and other quarter-turn type valves are more easily maintained in proper alignment, since the stem only rotates and does not need to travel longitudinally. Distinguished from quarter-turn type valve are “rising stem” valves, in which the valve stem is screw-actuated not only to rotate but also to shift

longitudinally – for example to raise or lower a gate perpendicularly to the direction of fluid flow.

A significant advantage of the present invention is its suitability for use in rising stem type valves as well as quarter-turn or other rotating stem type valves. The invention's use of two independently adjustable connecting means — a first for connecting the primary and secondary packing gland flanges, and a second for connecting the primary packing gland flange to the valve body — facilitates alignment of the valve components despite the comparatively longer valve dimensions and stem travel.

Claims 1, 4, 5, 7-9 and 13-15 stand rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 6,382,633 to Hashiguchi et al. Although the rejection is for lack of novelty rather than obviousness, Applicant's note that Hashiguchi et al. is not from Applicants' field of endeavor.

Hashiguchi et al. is not an apparatus “attachable to a valve having an axial stem and a primary packing gland with packing therein” (claim 1) nor is it useable “On a valve assembly for regulating the flow of a fluid, the valve assembly including a valve body defining a primary packing gland with packing material packed therein around a valve stem disposed through said primary packing gland” (claim 7) as recited by the preambles to the original claims. Rather, Hashiguchi et al. apparently has to do with pumps and turbines — “rotary equipment” having a “rotating shaft” that might vibrate or go eccentric. Hashiguchi et al., Abstract; col. 1, lines 10-41; col. 2, lines 17-39 and 55-60; col. 5, lines 1-30.

The scope of the prior art primarily encompasses references that are reasonably pertinent to the inventor's field of endeavor. *Heidelberger Druckmaschinen AG v. Hantscho Commercial Products, Inc.*, 21 F.3d 1068, 1071, 30 U.S.P.Q.2d 1377 (Fed. Cir. 1994). If a reference is not within the inventor's field of endeavor, that reference may be relied upon in determining obviousness only if the reference is “analogous art.” *Id.* at 1071. A reference is analogous if a person of ordinary skill in the art would reasonably have consulted the reference and applied its teachings in seeking a solution to the problem the inventor was attempting to solve. In determining whether a reference is reasonably pertinent to the inventor's field of endeavor, one must look to the problem confronting the inventor. *Id.* at 1072.

Applicants submit that a person of ordinary skill in the art of fluid valves would not look to the art of pumps having a “rotating shaft” to solve valve leakage problems. In the instant application, a problem to be solved is the tendency of valves to experience premature seal packing failure, resulting in unacceptable fugitive emissions. *See, e.g.*, Specification, p. 3, lines 6-28. Applicants solve the problem by providing a secondary packing assembly that is physically isolated from the valve’s primary packing, thus allowing for tremendously reduced packing pressures (and thus longer life) for the secondary packing. Specification, p. 6, lines 21-24; p. 9, line 18 to p. 10, line 13.

Hashiguchi et al., in contrast, are not directly concerned with packing failure or reducing packing pressure in secondary packings. Rather, Hashiguchi et al. attempt primarily to solve the distinct and mostly unrelated problem of the propensity for pump and turbine shafts to “go eccentric” or vibrate radially (laterally), thus compromising the seal around the drive shaft. *See, e.g.*, Hashiguchi et al., col. 1, lines 34-55; col. 5, lines 14-39. Thus Hashiguchi et al. were not solving the same problem as addressed by the instant invention.

In any event, the rejection of claims 1, 4, 5, 7-9 and 13-15 under 35 U.S.C. § 102(b) over Hashiguchi et al. is overcome by amendment to claims 1 and 7. Claims 1 and 7 are amended to recite features not disclosed by Hashiguchi et al.

As amended, claim 1 recites that the secondary packing gland apparatus is “attachable to a valve assembly comprising an axial stem and a primary packing,” and that “said primary packing *is compressible within said valve assembly* by said primary packing gland flange, and said second means for connecting is adjustable to move said primary packing gland flange axially to increase and decrease the compression of said primary packing.” The Hashiguchi et al. patent does not teach any “valve assembly,” much less that the valve assembly comprises a primary packing. Hashiguchi et al. disclose any primary packing at all, it is component **10a** in the figures, which component is wholly exterior to and separate from the rotary equipment body **6**. Hashiguchi et al., Fig. 5; col. 2, lines 31-40. So, the recitation of claim 1 of a primary packing compressible within the valve assembly “by said primary packing gland flange” overcomes the rejection of claim 1 over Hashiguchi et al.

Claims 1-6 depend from claim 1, and thus also are allowable under 35 U.S.C. § 102(b) over Hashiguchi et al.

Claim 7 has been amended to specify “A valve assembly for regulating the flow of a fluid, the valve assembly including a valve body defining therein a primary packing chamber with primary packing packed around a valve stem.” These limitations are absent from Hashiguchi et al. Claim 7 additionally has been amended to require that “said second packing chamber is entirely separated from said primary packing chamber” This limitation also is not met by Hashiguchi et al., particularly since any “primary packing chamber” in the Hashiguchi et al. device is *not* defined by its equipment body 6.

Claims 9-14 depend from claim 7 as amended, and thus also are allowable over Hashiguchi et al.

Claims 2, 3, 11 and 12 were rejected under 35 U.S.C. § 103 as being obvious over Pakula in view of U.S. Patent No. 5,263,682 to Covert et al. These claims depend from claims 1 or 7, which have been amended to make them allowable over Pakula. Covert et al. does not teach the subject matter absent from Pakula and added to claims 1 and 7 by amendment. Claims 2, 3, 11 and 12 thus are allowable over Pakula in view of Covert et al.

Claim 10 was rejected under 35 U.S.C. § 103 over Hashiguchi et al in view of Spock, Jr. et al. Claim 10 depends from claim 7, which has been amended to make it allowable over Hashiguchi et al. Spock, Jr. et al. does not teach the subject matter absent from Hashiguchi et al. that was added to claim 7 by amendment. Claims 10 thus is allowable over Hashiguchi et al. in view of Spock, Jr., et al.

Claims 5, 9, 11, and 14 are amended to adjust dependency, to correct spelling errors, or to improve clarity.

New claims 16-20 are added to claim additional subject matter which Applicants regard as their invention. Examination and allowance of the new claims, in light of the foregoing remarks, is respectfully solicited.



Pat. App. Ser. No. 10/600,150

Entries of the proposed amendments, and reconsideration and allowance of all the claims as amended, are respectfully solicited. If the Examiner has any suggestions regarding this application, he is invited to call the undersigned.

Respectfully submitted,

PEACOCK MYERS P.C.

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Attachments: Annotated and replacement drawing sheets

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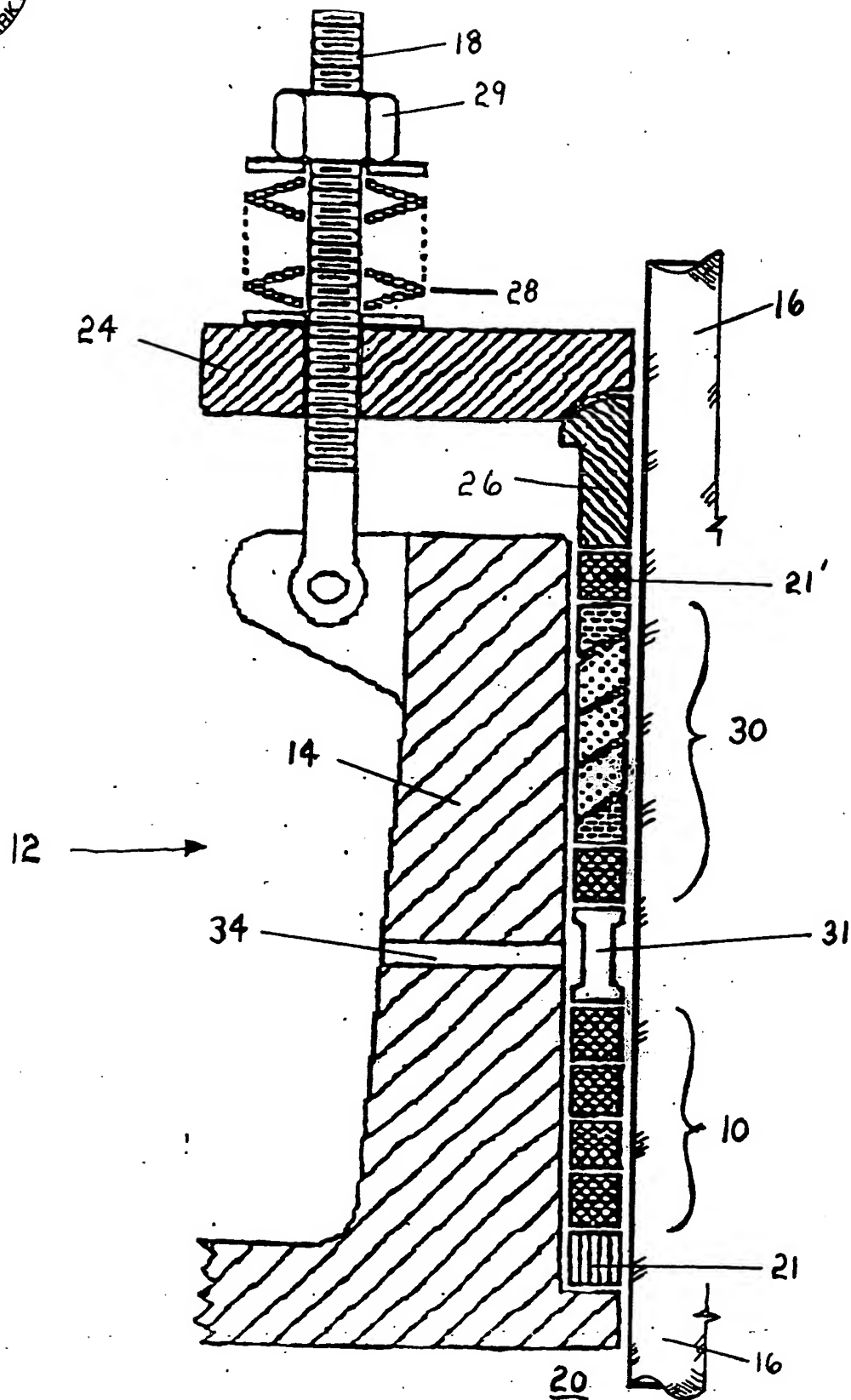


FIG. 2 (PRIOR ART)

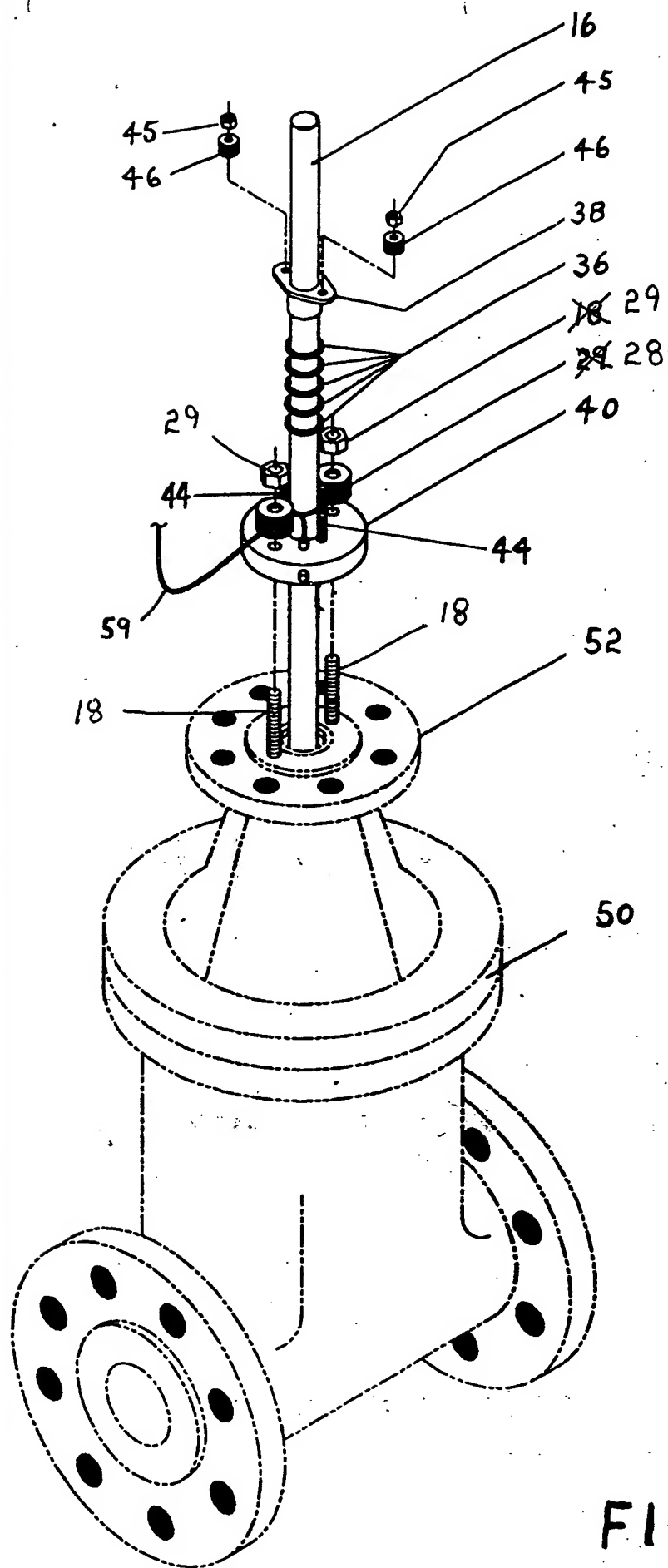


FIG. 3